

***Claim Rejections Under 35 U.S.C. § 103***

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui et al. (U.S. Patent No. 6,100,594). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the instant invention as claimed, and the cited prior art.

An aspect of the present invention, per claim 17, is a semiconductor device comprising a circuit board, a first semiconductor chip positioned on the circuit board, and a second semiconductor chip positioned on the first semiconductor chip. The circuit board has first and second pads spaced away from each other along an outer periphery of the first semiconductor chip and the first semiconductor chip has third and fourth pads spaced away from each other along an outer periphery of the second semiconductor chip. The third and fourth pads are positioned adjacent the first and second pads and a wire printed on the first semiconductor chip connects the third and fourth pads. The second semiconductor chip has a fifth pad positioned adjacent to the third pad but away from the fourth pad on the first semiconductor chip. The first pad on the circuit board and the third pad on the first semiconductor chip, the first pad on the circuit board and the fifth pad on the second semiconductor chip, and the second pad on the circuit board and the fourth pad on the first semiconductor chip are electrically connected through respective bonding wires.

The Examiner asserts that Fukui discloses a semiconductor device comprising a circuit board 5, first semiconductor chip 1, second semiconductor chip 2, first and second pads 13 on the circuit board, third and fourth pads 17a on the first semiconductor chip, and a fifth pad 17b on the second semiconductor chip (FIG. 7a and 7b). The Examiner acknowledges that Fukui does not disclose that the third and fourth pads are connected by a wire printed on the first semiconductor chip, as required by claim 17. Fukui, however, teaches a different embodiment (FIG. 9b) where a

wire is connected between two pads on the surface of the first semiconductor chip. The Examiner concludes that it would have been obvious to incorporate a wire connecting between the third and fourth pads to improve bonding wire spacing and to reduce wire bonding defects.

Fukui fails to suggest the claimed semiconductor device. There is no suggestion in the cited references to modify the first semiconductor chip, as illustrated by Figs. 7a and 7b, to include a wire printed on the first semiconductor chip connecting the third and fourth pads, as required by claim 17. Fukui in FIG. 7 (a) and 7(b) teaches the asserted third and fourth pads are electrically isolated. The Examiner's proposed modification would create an electrical connection between the asserted third and fourth pads and would be in opposition to the teaching of FIG. 7(a) and 7(b). There is no motivation to short circuit the asserted third and fourth pads, as asserted by the Examiner.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge readily available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). There is no suggestion in Fukui to combine the teachings of two different embodiments to form a wire printed on the first semiconductor chip connecting the third pad and the fourth pads, as required by claim 17. The mere fact that references can be combined or modified does not render the resulting combination obvious unless the prior art also suggests the desirability of the modification. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

The requisite motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. § 103 is not an abstract concept, but must stem from the applied prior art as a whole and

realistically impel one having ordinary skill in the art to modify a specific reference in a specific manner to arrive at a specifically claimed invention. *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989). Accordingly, the Examiner is charged with the initial burden of identifying a source in the applied prior art for the requisite realistic motivation. *Smiths Industries Medical System v. Vital Signs, Inc.*, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999); *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1449 (Fed. Cir. 1997). There is no motivation in Fukui to combine the teachings of two different embodiments to form a wire printed on the first semiconductor chip connecting the third pad and the fourth pads, as required by claim 17.

The Examiner asserted modification of FIG. 7a and 7b would render the Fukui semiconductor device of FIG. 7a and 7b unfit for its intended purpose. The asserted third and fourth pads of FIG. 7a and 7b are electrically isolated. Short circuiting the third and fourth pads would make the semiconductor device of FIG. 7a and 7b unfit for its intended purpose. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Therefore, it would not have been obvious to modify the semiconductor device of Fukui to achieve the claimed device.

The only teaching of the claimed semiconductor device is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Examiner's conclusion of obviousness is not supported by any suggestion in the prior art to modify Fukui. The Examiner's retrospective assessment of the claimed invention and use of unsupported conclusory statements are not legally

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sufficient to generate a case of *prima facie* obviousness. It appears the Examiner's conclusion of obviousness is rooted in improper hindsight reasoning.

Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukui et al. in view of the Applicant's Admitted Prior Art (APA). This rejection is traversed, and reconsideration and withdrawal respectfully requested.

Claim 18 is allowable for at least the same reasons as independent claim 17. The APA does not cure the deficiencies of Fukui. There is no suggestion in the APA to connect the third and fourth pads with a wire printed on the first semiconductor chip, as required by claim 17.

***Allowable Subject Matter***

Claims 10, 13-16, and 19-21 are allowed. Applicants gratefully acknowledge the indication of allowable subject matter.

In light of the remarks above, this application should be allowed and the case should be passed to issue. If there are any question regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT WILL & EMERY LLP



Bernard P. Codd

Registration No. 46,429

600 13<sup>th</sup> Street, N.W.  
Washington, DC 20005-3096  
202.756.8000 BPC:kap  
Facsimile: 202.756.8087  
**Date: December 7, 2004**

**Please recognize our Customer No. 20277  
as our correspondence address.**